

NPL Search HISTORY
Please go on

Set	Items	Description
S1	214112	(SHIFT? OR FLARE? OR DATA? ? OR FEEDBACK? OR FEED()BACK) (2-W) REGISTER??? OR REGISTER??? OR LATCH? OR FLIPFLOP? OR FF
S2	2579	(CLUSTER? OR MANY?? OR SEVERAL?? OR MULTIPLE? ? MULTIPLICITY?? OR PLURAL?) (10W) S1
S3	4795	(NUMEROUS? OR ADDITIONAL?? OR THREE(2W)MORE OR GROUP??? OR AGGREGAT? OR EXTRA?) (10W) S1
S4	20185	(EACH OR INDEPEND? OR INDIVIDUAL? OR SINGL? OR RESPECTIVE? OR COORDINAT? OR CORRESPOND? OR CORRELAT? OR DISTINCT?) (10N) S1
S5	11263	(SEPARATE? OR SINGULAR? OR UNIQUE? OR LONE? OR UNIQUE OR ADJOIN??? OR LINK??? OR SAME? OR SPECIF? OR PARTICUL?) (10N) S1
S6	186	(FEEDBACK? ? OR FEED()BACK? ? OR RETURN??? OR LOOP OR (CLOSE? ? OR CLOSING) ()LOOP??? OR CIRCUL?) (5N) (PATH? ? OR BACK? OR CONNECT? OR LINE? ? OR ROUTE? ? OR RETURN???) (10N) S4:S5
S7	8	(REITERAT? OR RE()ITERAT? OR ENCIRCL? OR CIRCL? OR JUNCT? - OR RECYCL?) (5N) (PATH? ? OR BACK? OR CONNECT? OR LINE? ? OR ROUTE? ? OR RETURN???) (10N) S4:S5
S8	1099	(CONTAIN? OR HAS OR INCLUD??? OR INCLUS??? OR TOGETHER? OR COMPRIS? OR JOIN??? OR CONNECT? OR ENJOIN? OR EMPLOY?) (10N) S2:S3
S9	2626813	MULTIPLEX? OR SWITCH? OR MUX? ? OR SELECTOR? OR SEL? ? OR -(MULTIPL? ()INPUT?) () (DIGITAL? ()DEVICE?)
S10	386	OUTPUT? ()REGISTER???
S11	1120755	OUTPUT? OR OUT() (PUT OR PUTS OR PUTTED OR PUTTING)
S12	370320	BIT OR BITS OR BINARY()DIGIT? ? OR DIGITAL()DATA? ?
S13	44187	(INPUT?? OR INPUTTING OR SEND??? OR DELIVER??? OR RECEIV? - OR ACCEPT? OR TRANSMIT? OR BEAM? OR PASS??? OR STREAM???) (10N) S12
S14	3304	(SEQUEN? OR SEQUENTIAL? OR SERIE?? OR SERIAL?? OR IN()ORDER? OR CONTIGU? OR CONSECUT? OR SERIAT? OR STEPWISE? OR CONSECUT? OR ONE()AFTER(2W) (OTHER OR ANOTHER) OR LOGIC?) (5N) S13
S15	6259	(OUTPUT? OR OUT() (PUT OR PUTS OR PUTTED OR PUTTING)) (5N) S12
S16	528	(SEQUEN? OR SEQUENTIAL? OR SERIE?? OR SERIAL?? OR IN()ORDER? OR CONTIGU? OR CONSECUT? OR SERIAT? OR STEPWISE? OR CONSECUT? OR ONE()AFTER(2W) (OTHER OR ANOTHER) OR LOGIC?) (5N) S15
S17	65334	S1 AND S2:S16
S18	1	S17 AND (S2:S3 OR S8) AND S6:S7 AND S9
S19	7286	S17 AND (S2:S3 OR S8)
S20	751	S19 AND S9
S21	1	S20 AND S9 AND (S14 OR S16) AND (S2:S3 OR S8)
S22	1	S17 AND S9 AND (S14 OR S16) AND (S2:S3 OR S8)
S23	1	S21:S22
S24	192	S17 AND S1 AND (S2:S3 OR S8) (10N) S9
S25	134	S24 AND S1 AND (S2:S3 OR S8) (5N) S9
S26	125	S25 NOT PY=2002:2006
S27	94	RD (unique items)
S28	20	S27 AND (TEST??? OR BIST? ? OR ABIST? ? OR BISR? ? OR MUT? ? OR DUT? ?)
S29	20	RD (unique items)
S30	74	S27 NOT S29
S31	194	S6:S7
S32	194	S31 AND (S1:S3 OR S8)
S33	194	S32 NOT S27
S34	40	S33 AND S9
S35	40	S34 AND S1:S3 AND S9
S36	37	S35 NOT PY=2002:2006
S37	27	RD (unique items)
S38	1314	AU= (PURI M? OR PURI, M?)
S39	2353	AU= (AGRAWAL G? OR AGRAWAL, G?)
S40	241	AU= (CROSBY T? OR CROSBY, T?)
S41	2	MUKESH(2N)PURI OR GHASI(2N)AGRAWAL OR (THOMPSON OR THOM OR

TOM OR TOMMY) (2N) CROSBY

S42 0 S38 AND S39 AND S40

S43 3908 S38:S40

S44 0 S43 AND S1:S3 AND S9

File 2:INSPEC 1898-2006/Mar W3
(c) 2006 Institution of Electrical Engineers

File 6:NTIS 1964-2006/Mar W2
(c) 2006 NTIS, Intl Cpyrght All Rights Res

File 8:Ei Compendex(R) 1970-2006/Mar W3
(c) 2006 Elsevier Eng. Info. Inc.

File 34:SciSearch(R) Cited Ref Sci 1990-2006/Mar W3
(c) 2006 Inst for Sci Info

File 35:Dissertation Abs Online 1861-2006/Mar
(c) 2006 ProQuest Info&Learning

File 62:SPIN(R) 1975-2006/Mar W1
(c) 2006 American Institute of Physics

File 65:Inside Conferences 1993-2006/Mar 29
(c) 2006 BLDSC all rts. reserv.

File 94:JICST-EPlus 1985-2006/Jan W1
(c) 2006 Japan Science and Tech Corp (JST)

File 95:TEME-Technology & Management 1989-2006/Mar W4
(c) 2006 FIZ TECHNIK

File 99:Wilson Appl. Sci & Tech Abs 1983-2006/Feb
(c) 2006 The HW Wilson Co.

File 111:TGG Natl.Newspaper Index(SM) 1979-2006/Mar 21
(c) 2006 The Gale Group

File 144:Pascal 1973-2006/Mar W1
(c) 2006 INIST/CNRS

File 239:Mathsci 1940-2006/May
(c) 2006 American Mathematical Society

File 256:TecInfoSource 82-2006/Apr
(c) 2006 Info.Sources Inc

File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
(c) 1998 Inst for Sci Info

Set	Items	Description
S1	269915	(SHIFT? OR FLARE? OR DATA? ? OR FEEDBACK? OR FEED()BACK) (2-W) REGISTER??? OR REGISTER?? OR LATCH? OR FLIPFLOP? OR FF
S2	17438	(CLUSTER? OR MANY?? OR SEVERAL?? OR MULTIPLE? ? MULTIPLICITY?? OR PLURAL?) (10W) S1
S3	15534	(NUMEROUS? OR ADDITIONAL?? OR THREE(2W)MORE OR GROUP??? OR AGGREGAT? OR EXTRA?) (10W) S1
S4	81718	(EACH OR INDEPEND? OR INDIVIDUAL? OR SINGL? OR RESPECTIVE? OR COORDINAT? OR CORRESPOND? OR CORRELAT? OR DISTINCT?) (10N) S1
S5	52604	(SEPARATE? OR SINGULAR? OR UNIQUE? OR LONE? OR UNIQUE OR ADJOIN??? OR LINK??? OR SAME? OR SPECIF? OR PARTICUL?) (10N) S1
S6	3635	(FEEDBACK? ? OR FEED()BACK? ? OR RETURN??? OR LOOP OR (CLOSE? ? OR CLOSING) ()LOOP??? OR CIRCUL?) (5N) (PATH? ? OR BACK? OR CONNECT? OR LINE? ? OR ROUTE? ? OR RETURN???) (10N) S4:S5
S7	135	(REITERAT? OR RE()ITERAT? OR ENCIRCL? OR CIRCL? OR JUNCT? - OR RECYCL?) (5N) (PATH? ? OR BACK? OR CONNECT? OR LINE? ? OR ROUTE? ? OR RETURN???) (10N) S4:S5
S8	13221	(CONTAIN? OR HAS OR INCLUD??? OR INCLUS??? OR TOGETHER? OR COMPRIS? OR JOIN??? OR CONNECT? OR ENJOIN? OR EMPLOY?) (10N) S2:S3
S9	449210	MULTIPLEX? OR SWITCH? OR MUX? ? OR (MULTIPL? () INPUT?) () (DIGITAL? () DEVICE?)
S10	3484	OUTPUT? ()REGISTER???
S11	530054	OUTPUT? OR OUT() (PUT OR PUTS OR PUTTED OR PUTTING)
S12	214503	BIT OR BITS OR BINARY()DIGIT? ? OR DIGITAL()DATA? ?
S13	93896	(INPUT?? OR INPUTTING OR SEND??? OR DELIVER??? OR RECEIV? - OR ACCEPT? OR TRANSMIT? OR BEAM? OR PASS??? OR STREAM???) (10N) S12
S14	21488	(SEQUEN? OR SÉQUENTIAL? OR SERIE?? OR SERIAL?? OR IN()ORDER? OR CONTIGU? OR CONSECUT? OR SERIAT? OR STEPWISE? OR CONSECUT? OR ONE()AFTER(2W) (OTHER OR ANOTHER) OR LOGIC?) (5N) S13
S15	37016	(OUTPUT? OR OUT() (PUT OR PUTS OR PUTTED OR PUTTING)) (5N) S12
S16	6702	(SEQUEN? OR SÉQUENTIAL? OR SERIE?? OR SERIAL?? OR IN()ORDER? OR CONTIGU? OR CONSECUT? OR SERIAT? OR STEPWISE? OR CONSECUT? OR ONE()AFTER(2W) (OTHER OR ANOTHER) OR LOGIC?) (5N) S15
S17	28574	S1(100N) (S2:S3 OR S8)
S18	377	S17(20N) S6:S7
S19	61	S18(10N) S9
S20	6	S19 AND S16(10N) (S1 AND S10)
S21	28574	S1(10N) (S2:S3 OR S8)
S22	187	S21(10N) S6:S7
S23	143	S22 AND (S1:S8 AND S9)
S24	181	S22 AND S21(5N) S6:S7
S25	23	S24(10N) S9
S26	21	S25 NOT AD=2002:2006
S27	21	IDPAT (sorted in duplicate/non-duplicate order)
S28	184	S2:S3(10N) S6:S7
S29	24	S28(10N) S9
S30	3	S29 NOT S27
S31	40	S28 AND S1(10N) (S14 OR S16)
S32	9	S31 AND S6:S7(10N) S9
S33	24	S27 OR S29
S34	3	S32 NOT S33
S35	3	S34 NOT S30
S36	31	S31 NOT S32
S37	13	S36 AND S16(10N) S1
S38	3	S37 AND S14(10N) S6:S7
S39	2	AU=(PURI M? OR PURI, M?)
S40	7	AU=(AGRAWAL G? OR AGRAWAL, G?)
S41	15	AU=(CROSBY T? OR CROSBY, T?)
S42	0	MUKESH(2N) PURI OR GHASI(2N) AGRAWAL OR (THOMPSON OR THOM OR

TOM OR TOMMY) (2N) CROSBY
S43 0 S39 AND S40 AND S41
S44 24 S39:S41
S45 1 S44 AND (S1 OR S9)
File 348:EUROPEAN PATENTS 1978-2006/ 200611
(c) 2006 European Patent Office
File 349:PCT FULLTEXT 1979-2006/UB=20060323,UT=20060316
(c) 2006 WIPO/Univentio

Set	Items	Description
S1	472003	(SHIFT? OR FLARE? OR DATA? ? OR FEEDBACK? OR FEED()BACK) (2-W) REGISTER??? OR REGISTER??? OR LATCH? OR FLIPFLOP? OR FF
S2	11312	(CLUSTER? OR MANY?? OR SEVERAL?? OR MULTIPLE? ? MULTIPLICITY??? OR PLURAL?) (10W) S1
S3	13413	(NUMEROUS? OR ADDITIONAL?? OR THREE(2W)MORE OR GROUP??? OR AGGREGAT? OR EXTRA?) (10W) S1
S4	87723	(EACH OR INDEPEND? OR INDIVIDUAL? OR SINGL? OR RESPECTIVE? OR COORDINAT? OR CORRESPOND? OR CORRELAT? OR DISTINCT?) (10N) S1
S5	34232	(SEPARATE? OR SINGULAR? OR UNIQUE? OR LONE? OR UNIQUE OR ADJOIN??? OR LINK??? OR SAME? OR SPECIF? OR PARTICUL?) (10N) S1
S6	1030	(FEEDBACK? ? OR FEED()BACK? ? OR RETURN??? OR LOOP OR (CLOSE? ? OR CLOSING) ()LOOP??? OR CIRCUL?) (5N) (PATH? ? OR BACK? OR CONNECT? OR LINE? ? OR ROUTE? ? OR RETURN???) (10N) S4:S5
S7	53	(REITERAT? OR RE()ITERAT? OR ENCIRCL? OR CIRCL? OR JUNCT? - OR RECYCL?) (5N) (PATH? ? OR BACK? OR CONNECT? OR LINE? ? OR ROUTE? ? OR RETURN???) (10N) S4:S5
S8	3968	(CONTAIN? OR HAS OR INCLUD??? OR INCLUS??? OR TOGETHER? OR COMPRIS? OR JOIN??? OR CONNECT? OR ENJOIN? OR EMPLOY?) (10N) S3
S9	1456544	MULTIPLEX? OR SWITCH? OR MUX? ? OR (MULTIPL?() INPUT?) () (DIGITAL?() DEVICE?)
S10	3374	OUTPUT?()REGISTER???
S11	2306114	OUTPUT? OR OUT() (PUT OR PUTS OR PUTTED OR PUTTING)
S12	278393	BIT OR BITS OR BINARY()DIGIT? ? OR DIGITAL()DATA? ?
S13	75553	(INPUT?? OR INPUTTING OR SEND??? OR DELIVER??? OR RECEIV? - OR ACCEPT? OR TRANSMIT? OR BEAM? OR PASS??? OR STREAM???) (10N-S12)
S14	8638	(SEQUEN? OR SEQUENTIAL? OR SERIE?? OR SERIAL?? OR IN()ORDER? OR CONTIGU? OR CONSECUT? OR SERIAT? OR STEPWISE? OR CONSECUT? OR ONE()AFTER(2W) (OTHER OR ANOTHER) OR LOGIC?) (5N) S13
S15	32183	(OUTPUT? OR OUT() (PUT OR PUTS OR PUTTED OR PUTTING)) (5N) S12
S16	2942	(SEQUEN? OR SEQUENTIAL? OR SERIE?? OR SERIAL?? OR IN()ORDER? OR CONTIGU? OR CONSECUT? OR SERIAT? OR STEPWISE? OR CONSECUT? OR ONE()AFTER(2W) (OTHER OR ANOTHER) OR LOGIC?) (5N) S15
S17	7195	(CONTAIN? OR HAS OR INCLUD??? OR INCLUS??? OR TOGETHER? OR COMPRIS? OR JOIN??? OR CONNECT? OR ENJOIN? OR EMPLOY?) (10N) S2:S3
S18	28	S1 AND S16 AND S10
S19	27	S18 NOT PR=2002:2006
S20	1	S19 AND S2:S3
S21	24015	S1 AND S2:S3
S22	103	S21 AND S6:S7
S23	23	S22 AND S9
S24	23	S23 NOT PR=2002:2006
S25	23	IDPAT (sorted in duplicate/non-duplicate order)

* See
also
next pg

Set	Items	Description
S1	472003	(SHIFT? OR FLARE? OR DATA? ? OR FEEDBACK? OR FEED()BACK) (2-W) REGISTER??? OR REGISTER??? OR LATCH? OR FLIPFLOP? OR FF
S2	12562	(CLUSTER? OR MANY?? OR SEVERAL?? OR BANK? OR MULTIPLE? ? MULTIPLICIT???) (10W) S1
S3	13413	(NUMEROUS? OR ADDITIONAL?? OR THREE(2W)MORE OR GROUP??? OR AGGREGAT? OR EXTRA?) (10W) S1
S4	87723	(EACH OR INDEPEND? OR INDIVIDUAL? OR SINGL? OR RESPECTIVE? OR COORDINAT? OR CORRESPOND? OR CORRELAT? OR DISTINCT?) (10N) S1
S5	34232	(SEPARATE? OR SINGULAR? OR UNIQUE? OR LONE? OR UNIQUE OR ADJOIN???) (LINK???) OR SAME? OR SPECIF? OR PARTICUL?) (10N) S1
S6	1030	(FEEDBACK? ? OR FEED()BACK? ? OR RETURN??? OR LOOP OR (CLOSE? ? OR CLOSING) ()LOOP??? OR CIRCUL?) (5N) (PATH? ? OR BACK? OR CONNECT? OR LINE? ? OR ROUTE? ? OR RETURN???) (10N) S4:S5
S7	53	(REITERAT? OR RE()ITERAT? OR ENCIRCL? OR CIRCL? OR JUNCT? - OR RECYCL?) (5N) (PATH? ? OR BACK? OR CONNECT? OR LINE? ? OR ROUTE? ? OR RETURN???) (10N) S4:S5
S8	7502	(CONTAIN? OR HAS OR INCLUD??? OR INCLUS??? OR TOGETHER? OR COMPRIS? OR JOIN??? OR CONNECT? OR ENJOIN? OR EMPLOY?) (10N) S2:S3
S9	1456544	MULTIPLEX? OR SWITCH? OR MUX? ? OR (MULTIPL?()INPUT?) () (DIGITAL?()DEVICE?)
S10	3374	OUTPUT?()REGISTER???
S11	2306114	OUTPUT? OR OUT() (PUT OR PUTS OR PUTTED OR PUTTING)
S12	278393	BIT OR BITS OR BINARY()DIGIT? ? OR DIGITAL()DATA? ?
S13	75553	(INPUT?? OR INPUTTING OR SEND???) OR DELIVER???) OR RECEIV? - OR ACCEPT? OR TRANSMIT? OR BEAM? OR PASS???) OR STREAM???) (10N) S12
S14	8638	(SEQUEN? OR SEQUENTIAL? OR SERIE?? OR SERIAL?? OR IN()ORDER? OR CONTIGU? OR CONSECUT? OR SERIAT? OR STEPWISE? OR CONSECUT? OR ONE()AFTER(2W) (OTHER OR ANOTHER) OR LOGIC?) (5N) S13
S15	32183	(OUTPUT? OR OUT() (PUT OR PUTS OR PUTTED OR PUTTING)) (5N) S12
S16	2942	(SEQUEN? OR SEQUENTIAL? OR SERIE?? OR SERIAL?? OR IN()ORDER? OR CONTIGU? OR CONSECUT? OR SERIAT? OR STEPWISE? OR CONSECUT? OR ONE()AFTER(2W) (OTHER OR ANOTHER) OR LOGIC?) (5N) S15
S17	4354	STUMP? ?
S18	273783	S1 AND S2:S17
S19	0	S18 AND S2:S3 AND S6:S7 AND S9 AND S10
S20	26	S18 AND S2:S3 AND S6:S7 AND S9
S21	28	S18 AND S16 AND S10
S22	16	S21 AND S14 AND S1 AND S16
S23	42	S20 OR S22
S24	28	S18 AND S1 AND S16 AND S10
S25	27	S24 NOT PR=2002:2006
S26	2	S25 AND S2:S3
S27	28	S23 AND (S2:S3 OR S8)
S28	26	S27 AND S6:S7
S29	26	S28 AND S9
S30	26	S29 NOT PR=2002:2006
S31	26	IDPAT (sorted in duplicate/non-duplicate order)
S32	26	S18 AND S17
S33	0	S32 AND S2:S3 AND S6:S7
S34	0	S32 AND S1 AND S9
S35	15	AU=(PURI M? OR PURI, M?)
S36	46	AU=(AGRAWAL G? OR AGRAWAL, G?)
S37	26	AU=(CROSBY T? OR CROSBY, T?)
S38	0	MUKESH(2N)PURI OR GHASI(2N)AGRAWAL OR (THOMPSON OR THOM OR TOM OR TOMMY) (2N)CROSBY
S39	0	S35 AND S36 AND S37
S40	1	S35:S38 AND S18
S41	3	S35:S38 AND S1

S42 3 S40:S41
S43 3 S42 NOT PR=2002:2006
S44 3021169 CHIP?? OR IC OR MICROCHIP?? OR MICRO()CHIP?? OR CIRCUIT?? -
 OR MICROCIRCUIT?? OR ASIC OR PCB OR TRANSISTOR?
S45 1552657 SEMICONDUCTOR OR SEMI()CONDUCTOR OR MOSFET? ? OR MICROPROC-
 ESSOR?? OR PROCESSOR??
S46 184406 (TEST??? OR ANALY? OR EXAMIN? OR DIAGNOS??? OR BENCHTEST? -
 OR CHECK? OR CALIBRAT? OR ABIST OR CUT OR MUT? ? OR CRC OR BI-
 SR? ?) (10N) S44:S45
S47 142314 (INSPECT? OR INVESTIGAT? OR EVALUAT? OR ASSESS? OR EXAMIN?
 OR DEMONSTRAT? OR TRIAL()RUN? ? OR TRY()OUT? ? OR CORRECT? OR
 BIST OR DUT? ?) (10N) S44:S45
S48 27574 (CONFIGUR? OR SET???()UP? ? OR ASSEMBL? OR ARRANG? OR DETE-
 RMIN? OR ORIENT? OR PARAMETER? OR SPECIFIC?) (10N) S46:S47
S49 2 S46:S48 AND S2:S3 AND S6:S7 AND S9
S50 15 S44:S48 AND (S2:S3 OR S8) AND S6:S7 AND S9
S51 0 S50 NOT S30
File 347:JAPIO Nov 1976-2005/Nov (Updated 060302)
 (c) 2006 JPO & JAPIO
File 350:Derwent WPIX 1963-2006/UD,UM &UP=200620
 (c) 2006 Thomson Derwent

Set	Items	Description
S1	948668	TEST OR TESTS OR TESTING OR CHECK OR CHECKS OR CHECKING OR VERIF? OR CRC OR BIST OR BISR OR BUILT()"IN"()SELF OR ECC OR - EDC OR ERROR() (CHECK? OR CORRECT? OR DETECT?)
S2	4100588	IC OR CIRCUIT? OR MEMOR? OR CHIP? OR MICROCHIP? OR SEMICON- DUCTOR? OR SEMI()CONDUCTOR? OR MICROPROCESSOR? OR ASIC OR VLSI
S3	1429160	(SCAN OR SHIFT)()REGISTER? OR SHIFT()"IN" OR INPUT
S4	5611	(OUT()PUT OR OUTPUT?) (N)REGISTER? OR SHIFT()OUT
S5	299165	SERIAL? ? OR SEQUENT? OR ORDERED OR FIFO OR FIRST()"IN"()F- IRST()OUT
S6	2287630	SAME? OR IDENTICAL? OR PRESERV? OR PREVIOUS? OR PRIOR? OR - FORMER?
S7	274535	S1 AND S2
S8	858	S3 AND (S4 OR S5) AND S6 AND S7
S9	23	S7 AND S4 AND S5 AND S6 AND S7 AND S3
S10	16335	S3(3N)S6
S11	77	S8 AND S10
S12	28	(S11 OR S9) AND IC=G01R
S13	28	IDPAT (sorted in duplicate/non-duplicate order)
S14	28	IDPAT (primary/non-duplicate records only)
File 347:JAPIO Nov 1976-2005/Feb(Updated 050606)		
(c) 2005 JPO & JAPIO		
File 350:Derwent WPIX 1963-2005/UD,UM &UP=200538		
(c) 2005 Thomson Derwent		

Set	Items	Description
S1	948668	TEST OR TESTS OR TESTING OR CHECK OR CHECKS OR CHECKING OR VERIF? OR CRC OR BIST OR BISR OR BUILT() "IN"() SELF OR ECC OR - EDC OR ERROR() (CHECK? OR CORRECT? OR DETECT?)
S2	4100588	IC OR CIRCUIT? OR MEMOR? OR CHIP? OR MICROCHIP? OR SEMICON- DUCTOR? OR SEMI()CONDUCTOR? OR MICROPROCESSOR? OR ASIC OR VLSI
S3	1429160	(SCAN OR SHIFT)()REGISTER? OR SHIFT() "IN" OR INPUT
S4	5611	(OUT()PUT OR OUTPUT?) (N)REGISTER? OR SHIFT()OUT
S5	299165	SERIAL? ? OR SEQUENT? OR ORDERED OR FIFO OR FIRST() "IN"() F- IRST()OUT
S6	2287630	SAME? OR IDENTICAL? OR PRESERV? OR PREVIOUS? OR PRIOR? OR - FORMER?
S7	274535	S1 AND S2
S8	858	S3 AND (S4 OR S5) AND S6 AND S7
S9	23	S7 AND S4 AND S5 AND S6 AND S7 AND S3
S10	16335	S3(3N)S6
S11	77	S8 AND S10
S12	28	(S11 OR S9) AND IC=G01R
S13	28	IDPAT (sorted in duplicate/non-duplicate order)
S14	28	IDPAT (primary/non-duplicate records only)

File 347:JAPIO Nov 1976-2005/Feb(Updated 050606)
(c) 2005 JPO & JAPIO

File 350:Derwent WPIX 1963-2005/UD,UM &UP=200538
(c) 2005 Thomson Derwent

Set	Items	Description
S1	14	AU=(PURI M? OR PURI, M?)
S2	41	AU=(AGRAWAL G? OR AGRAWAL, G?)
S3	38	AU=(CROSBY T? OR CROSBY, T?)
S4	0	S1 AND S2 AND S3
S5	91	S1:S3
S6	5	S5 AND IC=G01R
S7	7	S5 AND (ECC OR ERROR() (CORRECT? OR DETECT?) OR BIST OR BISR OR (SHIFT OR OUTPUT) () REGISTER?)
S8	9	S6 OR S7
S9	9	IDPAT (sorted in duplicate/non-duplicate order)
S10	9	IDPAT (primary/non-duplicate records only)
File 344:	Chinese Patents Abs Aug 1985-2005/May (c) 2005 European Patent Office	
File 347:	JAPIO Nov 1976-2005/Feb(Updated 050606) (c) 2005 JPO & JAPIO	
File 348:	EUROPEAN PATENTS 1978-2005/Jun W02 (c) 2005 European Patent Office	
File 349:	PCT FULLTEXT 1979-2005/UB=20050609,UT=20050602 (c) 2005 WIPO/Univentio	
File 350:	Derwent WPIX 1963-2005/UD,UM &UP=200536 (c) 2005 Thomson Derwent	

Set	Items	Description
S1	5993874	TEST OR TESTS OR TESTING OR CHECK OR CHECKS OR CHECKING OR VERIF? OR CRC OR BIST OR BISR OR BUILT() "IN"() SELF OR ECC OR - EDC OR ERROR() (CHECK OR CHECKS OR CHECKING OR CHECKED OR CORRECT? OR DETECT OR DETECTS OR DETECTING OR DETECTED)
S2	4276472	IC OR CIRCUIT? OR MEMOR? OR CHIP? OR MICROCHIP? OR SEMICONDUCTOR? OR SEMI() CONDUCTOR? OR MICROPROCESSOR? OR ASIC OR VLSI
S3	957199	(SCAN OR SHIFT)() REGISTER? OR SHIFT() "IN" OR INPUT
S4	587	(OUT() PUT OR OUTPUT?) (N) REGISTER? OR SHIFT() OUT
S5	709203	SERIAL? ? OR SEQUENT? OR ORDERED OR FIFO OR FIRST() "IN"() FIRST() OUT
S6	5775937	SAME? OR IDENTICAL? OR PRESERV? OR PREVIOUS? OR PRIOR? OR - FORMER?
S7	7	S1 AND S2 AND S3 AND S4 AND S5 AND S6
S8	4	S1 AND S2 AND S3(3N) (S5 OR S6) AND S4
S9	11	S7 OR S8
S10	6	RD (unique items)
S11	688	S1 AND S2 AND S3(3N) (S5 OR S6)
S12	7	S1 AND S3 AND S4 AND S5 AND S6
S13	11	S7 OR S8 OR S10 OR S12
S14	6	RD (unique items)
S15	4	S14 NOT PY>2001
S16	106	S5 AND S6 AND S11
S17	53	S1(3N)S2 AND S16
S18	34	RD (unique items)
S19	38	S18 OR S15
S20	38	RD (unique items)
S21	34	S20 NOT PY>2001
File	8:Ei Compendex(R) 1970-2005/Jun W1	
	(c) 2005 Elsevier Eng. Info. Inc.	
File	35:Dissertation Abs Online 1861-2005/May	
	(c) 2005 ProQuest Info&Learning	
File	65:Inside Conferences 1993-2005/Jun W3	
	(c) 2005 BLDSC all rts. reserv.	
File	2:INSPEC 1969-2005/Jun W2	
	(c) 2005 Institution of Electrical Engineers	
File	94:JICST-EPlus 1985-2005/May W1	
	(c) 2005 Japan Science and Tech Corp (JST)	
File	111:TGG Natl.Newspaper Index(SM) 1979-2005/Jun 20	
	(c) 2005 The Gale Group	
File	6:NTIS 1964-2005/Jun W1	
	(c) 2005 NTIS, Intl Cpyrgh All Rights Res	
File	144:Pascal 1973-2005/Jun W2	
	(c) 2005 INIST/CNRS	
File	434:SciSearch(R) Cited Ref Sci 1974-1989/Dec	
	(c) 1998 Inst for Sci Info	
File	34:SciSearch(R) Cited Ref Sci 1990-2005/Jun W2	
	(c) 2005 Inst for Sci Info	
File	62:SPIN(R) 1975-2005/Apr W1	
	(c) 2005 American Institute of Physics	
File	99:Wilson Appl. Sci & Tech Abs 1983-2005/May	
	(c) 2005 The HW Wilson Co.	
File	95:TEME-Technology & Management 1989-2005/May W2	
	(c) 2005 FIZ TECHNIK	

21/5/6 (Item 6 from file: 8)
DIALOG(R) File 8:Ei Compendex(R)
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04697340 E.I. No: EIP97053657140

Title: FIFO ring performance experiment

Author: Molnar, Charles E.; Jones, Ian W.; Coates, William S.; Lexau, Jon K.

Corporate Source: Sun Microsystems Lab, Mountain View, CA, USA

Conference Title: Proceedings of the 1997 3rd International Symposium on Advanced Research Asynchronous Circuits and Systems

Conference Location: Eindhoven, Neth Conference Date: 19970407-19970410

Sponsor: IEEE

E.I. Conference No.: 46365

Source: Proceedings of the International Symposium on Advanced Research in Asynchronous Circuits and Systems 1997. IEEE, Los Alamitos, CA, USA, 97TB100023. p 279-289

Publication Year: 1997

CODEN: 002592

Language: English

Document Type: CA; (Conference Article) Treatment: X; (Experimental)

Journal Announcement: 9707W2

Abstract: We describe a high-speed **FIFO circuit** intended to compare the performance of an asynchronous **FIFO** with that of a clocked **shift register** using the **same** data path. The **FIFO** uses a pulse-like protocol to advance data along the pipeline. Use of this protocol requires careful management of **circuit** delays within its control **circuits**, as well as in the coordination of control signals with movement of bundled data. In simulations using hSpice, the throughput of the asynchronous **circuit** matches that of a two-phase clocked design. We fabricated 50 parts through MOSIS using their 0.6 micron design rules. We estimate from **test** measurements that the internal **FIFO** stages could support a maximum throughput from 930 million data items per second for the slowest of the 50 **chips** to 1126 million per second for the fastest **chip**. All 50 samples operated correctly as 3.3V nominal Vdd varied from 1.67V to over 4.8V, with corresponding changes in operating speed and power as the supply voltage changed. (Author abstract) 9 Refs.

Descriptors: *Asynchronous sequential logic; Pipeline processing systems; Delay **circuits**; Shift registers; Computer simulation; Integrated **circuit** manufacture; Integrated **circuit** testing; Microprocessor **chips**

Identifiers: High speed first in first out (**FIFO**) **circuit**; Software package hSpice

Classification Codes:

721.1 (Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory); 721.3 (Computer Circuits); 722.4 (Digital Computers & Systems); 713.5 (Other Electronic Circuits); 723.5 (Computer Applications); 714.2 (Semiconductor Devices & Integrated Circuits)

721 (Computer Circuits & Logic Elements); 722 (Computer Hardware); 713 (Electronic Circuits); 723 (Computer Software); 714 (Electronic Components)

72 (COMPUTERS & DATA PROCESSING); 71 (ELECTRONICS & COMMUNICATIONS)

21/5/25 (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

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02389336 INSPEC Abstract Number: B85011300, C85009989

Title: **Diagnostics on the chip . A new concept facilitates the testing of systems**

Author(s): Wittfoth, P.

Author Affiliation: Monolithic Memories GmbH, Munchen, West Germany

Journal: Elektronik Industrie vol.15, no.11 p.123-6

Publication Date: 1984 Country of Publication: West Germany

CODEN: EKIDAT ISSN: 0374-3144

Language: German Document Type: Journal Paper (JP)

Treatment: General, Review (G); New Developments (N)

Abstract: Deals with the concept of 'Shadow Register Diagnostics' introduced by Monolithic **Memories** Inc., and for which new PROMs and the so-called 'pipeline register' have been developed, and which includes the concept of **serial** scan diagnostic. The diagnostic PROM includes, in addition to the PROM array and the **output registers**, so-called shadow registers on the **input** side. It discusses difficulties which arise in the use of **previous on-chip** diagnostic systems and shows how the new system overcomes them. The structure and characteristics of the new equipment are described and illustrated by the example of its application to a microprogrammable CPU. (0 Refs)

Subfile: B C

Descriptors: integrated circuit testing ; microprocessor chips ; PROM

Identifiers: onchip diagnostics; Shadow Register Diagnostics; Monolithic **Memories** Inc.; pipeline register; **serial** scan diagnostic; diagnostic PROM; PROM array; **output registers**; structure; characteristics; microprogrammable CPU

Class Codes: B1265D (Memory circuits); B1265F (Microprocessors and microcomputers); C5130 (Microprocessor chips); C5320G (Semiconductor storage)

Set	Items	Description
S1	672739	TEST OR TESTS OR TESTING OR CHECK OR CHECKS OR CHECKING OR VERIF? OR CRC OR BIST OR BISR OR BUILT() "IN"() SELF OR ECC OR - EDC OR ERROR() (CHECK OR CHECKS OR CHECKING OR CHECKED OR CORRECT? OR DETECT OR DETECTS OR DETECTING OR DETECTED)
S2	820627	IC OR CIRCUIT? OR MEMOR? OR CHIP? OR MICROCHIP? OR SEMICONDUCTOR? OR SEMI()CONDUCTOR? OR MICROPROCESSOR? OR ASIC OR VLSI
S3	420965	(SCAN OR SHIFT)()REGISTER? OR SHIFT() "IN" OR INPUT
S4	5486	(OUT()PUT OR OUTPUT?) (N)REGISTER? OR SHIFT()OUT
S5	405694	SERIAL? ? OR SEQUENT? OR ORDERED OR FIFO OR FIRST() "IN"() F- IST()OUT
S6	1638236	SAME? OR IDENTICAL? OR PRESERV? OR PREVIOUS? OR PRIOR? OR FORMER?
S7	166	S1(5N)S2(10N)S3(10N)S4
S8	30459	S3(2N)(S5 OR S6)
S9	32	S7(S)S8
S10	13	S9 AND IC=G01R
S11	15	S7(S)S5(S)S6
S12	5	S11 AND IC=G01R
S13	17	S10 OR S12
S14	17	IDPAT (sorted in duplicate/non-duplicate order)
S15	17	IDPAT (primary/non-duplicate records only)

File 348: EUROPEAN PATENTS 1978-2005/Jun W02
(c) 2005 European Patent Office

File 349: PCT FULLTEXT 1979-2005/UB=20050616, UT=20050609
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Set	Items	Description
S1	147232	(TEST OR TESTS OR TESTING OR CHECK OR CHECKS OR CHECKING OR VERIF? OR CRC OR BIST OR BISR OR BUILT() "IN"() SELF OR ECC OR EDC OR ERROR() (CHECK OR CHECKS OR CHECKING OR CHECKED OR CORRECT? OR DETECT OR DETECTS OR DETECTING OR DETECTED)) (3N) (IC - OR CIRCUIT?
S2	1167672	(SCAN OR SHIFT) () REGISTER? OR SHIFT() "IN" OR INPUT
S3	3606	(OUT() PUT OR OUTPUT?) (N) REGISTER? OR SHIFT() OUT
S4	1437771	SERIAL? ? OR SEQUENT? OR ORDERED OR FIFO OR FIRST() "IN"() F- IST() OUT
S5	18274423	SAME? OR IDENTICAL? OR PRESERV? OR PREVIOUS? OR PRIOR? OR - FORMER?
S6	105	S1(10N) S2(10N) S3
S7	96	S6(10N) (S4 OR S5)
S8	57	RD (unique items)
S9	54	S8 NOT PY>2001
S10	54	S9 NOT PD=20010604:20040604
S11	54	S10 NOT PD=20040604:20050701
S12	35	S11 AND S4
S13	11733	S2(2N) S5
S14	6	S11 AND S13
S15	36	S12 OR S14
File	275	Gale Group Computer DB(TM) 1983-2005/Jun 21 (c) 2005 The Gale Group
File	47	Gale Group Magazine DB(TM) 1959-2005/Jun 21 (c) 2005 The Gale group
File	75	TGG Management Contents(R) 86-2005/Jun W2 (c) 2005 The Gale Group
File	636	Gale Group Newsletter DB(TM) 1987-2005/Jun 21 (c) 2005 The Gale Group
File	16	Gale Group PROMT(R) 1990-2005/Jun 21 (c) 2005 The Gale Group
File	624	McGraw-Hill Publications 1985-2005/Jun 20 (c) 2005 McGraw-Hill Co. Inc
File	484	Periodical Abs Plustext 1986-2005/Jun W2 (c) 2005 ProQuest
File	613	PR Newswire 1999-2005/Jun 21 (c) 2005 PR Newswire Association Inc
File	813	PR Newswire 1987-1999/Apr 30 (c) 1999 PR Newswire Association Inc
File	141	Readers Guide 1983-2005/Dec (c) 2005 The HW Wilson Co
File	239	Mathsci 1940-2005/Jul (c) 2005 American Mathematical Society
File	370	Science 1996-1999/Jul W3 (c) 1999 AAAS
File	696	DIALOG Telecom. Newsletters 1995-2005/Jun 20 (c) 2005 The Dialog Corp.
File	553	Wilson Bus. Abs. FullText 1982-2004/Dec (c) 2005 The HW Wilson Co
File	621	Gale Group New Prod.Annou. (R) 1985-2005/Jun 21 (c) 2005 The Gale Group
File	674	Computer News Fulltext 1989-2005/Jun W2 (c) 2005 IDG Communications
File	88	Gale Group Business A.R.T.S. 1976-2005/Jun 20 (c) 2005 The Gale Group
File	369	New Scientist 1994-2005/May W1 (c) 2005 Reed Business Information Ltd.
File	160	Gale Group PROMT(R) 1972-1989 (c) 1999 The Gale Group
File	635	Business Dateline(R) 1985-2005/Jun 20 (c) 2005 ProQuest Info&Learning
File	15	ABI/Inform(R) 1971-2005/Jun 20 (c) 2005 ProQuest Info&Learning
File	9	Business & Industry(R) Jul/1994-2005/Jun 20

(c) 2005 The Gale Group
File 13:BAMP 2005/Jun W2
(c) 2005 The Gale Group
File 810:Business Wire 1986-1999/Feb 28
(c) 1999 Business Wire
File 610:Business Wire 1999-2005/Jun 21
(c) 2005 Business Wire.
File 647:CMF Computer Fulltext 1988-2005/Jun W1
(c) 2005 CMF Media, LLC
File 98:General Sci Abs/Full-Text 1984-2004/Dec
(c) 2005 The HW Wilson Co.
File 148:Gale Group Trade & Industry DB 1976-2005/Jun 20
(c) 2005 The Gale Group
File 634:San Jose Mercury Jun 1985-2005/Jun 20
(c) 2005 San Jose Mercury News

Set	Items	Description
S1	3365914	(SHIFT? OR FLARE? OR DATA? ? OR FEED() BACK) (2-W) REGISTER??? OR REGISTER??? OR LATCH? OR FLIPFLOP? OR FF
S2	30494	(CLUSTER? OR MANY?? OR SEVERAL?? OR MULTIPLE? ? MULTIPLICITY?? OR PLURAL?) (10W) S1
S3	75763	(NUMEROUS? OR ADDITIONAL?? OR THREE(2W)MORE OR GROUP??? OR AGGREGAT? OR EXTRA?) (10W) S1
S4	577957	(EACH OR INDEPEND? OR INDIVIDUAL? OR SINGL? OR RESPECTIVE? OR COORDINAT? OR CORRESPOND? OR CORRELAT? OR DISTINCT?) (10N) S1
S5	101862	(SEPARATE? OR SINGULAR? OR UNIQUE? OR LONE? OR UNIQUE OR ADJOIN??? OR LINK??? OR SAME? OR SPECIF? OR PARTICUL?) (10N) S1
S6	2115	(FEEDBACK? ? OR FEED() BACK? ? OR RETURN??? OR LOOP OR (CLOSE? ? OR CLOSING) () LOOP??? OR CIRCUL?) (5N) (PATH? ? OR BACK? OR CONNECT? OR LINE? ? OR ROUTE? ? OR RETURN???) (10N) S4:S5
S7	34	(REITERAT? OR RE() ITERAT? OR ENCIRCL? OR CIRCL? OR JUNCT? - OR RECYCL?) (5N) (PATH? ? OR BACK? OR CONNECT? OR LINE? ? OR ROUTE? ? OR RETURN???) (10N) S4:S5
S8	15979	(CONTAIN? OR HAS OR INCLUD??? OR INCLUS??? OR TOGETHER? OR COMPRIS? OR JOIN??? OR CONNECT? OR ENJOIN? OR EMPLOY?) (10N) S2:S3
S9	2316487	MULTIPLEX? OR SWITCH? OR MUX? ? OR (MULTIPL? () INPUT?) () (DIGITAL? () DEVICE?)
S10	930	OUTPUT? () REGISTER???
S11	1579529	OUTPUT? OR OUT() (PUT OR PUTS OR PUTTED OR PUTTING)
S12	2070245	BIT OR BITS OR BINARY() DIGIT? ? OR DIGITAL() DATA? ?
S13	129812	(INPUT?? OR INPUTTING OR SEND??? OR DELIVER??? OR RECEIV? - OR ACCEPT? OR TRANSMIT? OR BEAM? OR PASS??? OR STREAM???) (10N) S12
S14	5037	(SEQUEN? OR SEQUENTIAL? OR SERIE?? OR SERIAL?? OR IN() ORDER? OR CONTIGU? OR CONSECUT? OR SERIAT? OR STEPWISE? OR CONSECUT? OR ONE() AFTER(2W) (OTHER OR ANOTHER) OR LOGIC?) (5N) S13
S15	15649	(OUTPUT? OR OUT() (PUT OR PUTS OR PUTTED OR PUTTING)) (5N) S12
S16	1003	(SEQUEN? OR SEQUENTIAL? OR SERIE?? OR SERIAL?? OR IN() ORDER? OR CONTIGU? OR CONSECUT? OR SERIAT? OR STEPWISE? OR CONSECUT? OR ONE() AFTER(2W) (OTHER OR ANOTHER) OR LOGIC?) (5N) S15
S17	43510	STUMP? ?
S18	2145	S6:S7
S19	67	S18 AND (S1:S3 OR S8) (10N) S9
S20	67	S19 NOT PD=2002:2006
S21	39	RD (unique items)
S22	12200	S1 AND (S1:S3 OR S8) (10N) S9
S23	9	22 AND S16 (10N) S1
S24	6	RD (unique items)
S25	7552	S22 AND (S1:S3 OR S8) (5N) S9
S26	176	S25 AND S8
S27	22	S26 AND S6:S7
S28	0	S27 NOT S20
S29	40	S25 AND S16 AND S1
S30	6	S29 AND S10
S31	323	S9 AND (S1:S3 OR S8) (10N) S15:S16
S32	8	S31 AND S18
S33	13	S31 AND S8
S34	0	S33 AND S8 (10N) S9
S35	95	S22 AND S8 (10N) S9
S36	4	S35 AND S6:S7
File	9:Business & Industry(R)	Jul/1994-2006/Mar 28
	(c) 2006	The Gale Group
File	13:BAMP	2006/Mar W3
	(c) 2006	The Gale Group
File	15:ABI/Inform(R)	1971-2006/Mar 29
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File 75:TGG Management Contents(R) 86-2006/Mar W3
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File 148:Gale Group Trade & Industry DB 1976-2006/Mar 28
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File 160:Gale Group PROMT(R) 1972-1989
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File 369:New Scientist 1994-2006/Aug W4
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Set Items Description
 S1 16386 LFSR OR (FLARE OR REPAIR()EXECUTION OR SHIFT())REGISTER? OR
 SCANPATH? OR SCAN()PATH?
 S2 918701 OUTPUT? OR OUT()PUT?
 S3 415871 FEEDBACK? OR RETURN()PATH? OR CIRCUIT?) OR FEED?()BACK?
 S4 6398552 MULTIPL? OR PARALLEL? OR PLURAL? OR MANY OR SEVERAL?
 S5 9371973 MEMOR? OR ECD OR ECC OR TEST? OR CHECK? OR VALIDAT? OR EXA-
 MIN?
 S6 569 S1 AND S2 AND S3
 S7 152 S6 AND S4 AND S5
 S8 7 S6 AND S4 AND (CLEAR? OR RESET? OR EMPTY? OR RELOAD?)
 S9 5 S7 AND (CLEAR? OR RESET? OR EMPTY? OR RELOAD?)
 S10 23190 S2(3N)S3
 S11 2949 S1(3N)S3
 S12 131 S7 AND (S10 OR S11)
 S13 131 S12 AND (S4 OR S5)
 S14 135 S8 OR S9 OR S13
 S15 88 RD (unique items)
 S16 76 S15 NOT PY>2001
 S17 75 S16 AND S5
 S18 70 S17 AND (TEST? OR VERIF? OR VALID? OR CHECK? OR EVALUAT? OR
 EXAMIN?)
 S19 59 S18 AND (MEMOR? OR CHIP OR MICROCHIP? OR CIRCUIT? OR CHIPS
 OR VLSI OR MOSFET OR IC)
 S20 145838 (MEMOR? OR CHIP OR CHIPS OR MICROCHIP? OR CIRCUIT? OR VLSI
 OR MOSFET OR IC OR PROM OR EPROM) (3N) (TEST? OR VERIF? OR VALI-
 D? OR CHECK? OR EVALUAT? OR EXAMIN)
 S21 47 S19 AND S20
 File 8:Ei Compendex(R) 1970-2004/May W3
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 File 99:Wilson Appl. Sci & Tech Abs 1983-2004/Apr
 (c) 2004 The HW Wilson Co.
 File 95:TEME-Technology & Management 1989-2004/May W2
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Set	Items	Description
S1	38626	LFSR OR (FLARE OR REPAIR()EXECUTION OR SHIFT)()REGISTER? OR SCANPATH? OR SCAN()PATH?
S2	2127016	OUTPUT? OR OUT()PUT?
S3	135283	FEEDBACK? OR RETURN() (PATH? OR CIRCUIT?) OR FEED?()BACK?
S4	2717578	MULTIPL? OR PARALLEL? OR PLURAL? OR MANY OR SEVERAL?
S5	1773956	MEMOR? OR ECD OR ECC OR TEST? OR CHECK? OR VALIDAT? OR EXA-MIN?
S6	1244	S1 AND S2 AND S3
S7	759	(S4 OR S5) AND S6
S8	117	S7 AND IC=G01R?
S9	29	S1(5N)S2 AND S8
S10	26	S5 AND S9
S11	29	S9 OR S10
S12	29	IDPAT (sorted in duplicate/non-duplicate order)
S13	28	IDPAT (primary/non-duplicate records only)
File 347:JAPIO Nov 1976-2004/Jan(Updated 040506)		
(c) 2004 JPO & JAPIO		
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200432		
(c) 2004 Thomson Derwent		